

The opinion in support of the decision being entered today was *not* written for publication and is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* JACK R. KRIES, RONALD A. BEER,  
JAMES P. HAMBERG,  
and FREDRICK C. MILLER

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Appeal 2006-2022  
Application 10/092,320  
Technology Center 3600

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Decided: December 22, 2006

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Before GARRIS, PAK, and WARREN, *Administrative Patent Judges*.  
GARRIS, *Administrative Patent Judge*.

DECISION ON APPEAL

This appeal involves claims 1-18. We have jurisdiction over the appeal pursuant to 35 U.S.C. § 134.

We REVERSE and REMAND.

## INTRODUCTION

The claims are directed to a powertrain mount for use in motor vehicles wherein the powertrain mount has a compliant element in the fluid chamber of the mount (Specification 1, ll. 8-9). Claims 1 and 8 are illustrative:

1. A powertrain mount comprising:  
an upper orifice plate;  
a lower orifice plate; and  
a generally planar diaphragm having an enlarged central node and a periphery, the central node being in constant contact with the upper orifice plate and in contact with the lower orifice plate, and the periphery being spaced apart from at least one of the upper or lower orifice plates and free to move between the upper orifice plate and the lower orifice plate.

8. A powertrain mount comprising:  
an upper orifice plate;  
a lower orifice plate; and  
a generally planar diaphragm having an enlarged central node and a periphery, the central node being in constant contact with the upper orifice plate and in contact with the lower orifice plate, and the periphery having a raised rim that is spaced apart from at least one of the upper or lower orifice plates and free to move between the upper orifice plate and the lower orifice plate.

The Examiner relies on the following prior art references as evidence of unpatentability:

Hein	US 5,782,462	Jul. 21, 1998
Yamamoto	US 6,505,822 B1	Jan. 14, 2003

The rejection as presented by the Examiner is as follows:

1. Claims 1-18 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Yamamoto in view of Hein.

Rather than reiterate the respective positions advocated by the Appellants and by the Examiner concerning this rejection, we refer to the Brief and Reply Brief and to the Answer respectively for a complete exposition thereof.

### OPINION

Appellants indicate two claim groupings in their Brief. Group I includes claims 1-5, 7, 14-16, and 18. Group II includes claims 6, 8-13, and 17. Claims 1 and 8 are the broadest independent claims in each of the groupings. Accordingly, we choose independent claims 1 and 8 as representative claims on which to render our decision.

### CLAIM 1

The Examiner rejects claims 1-7 and 14-18 under § 103(a) over Yamamoto in view of Hein (Answer 3, Final Office Action 2). The Examiner states that Yamamoto discloses all the features of claim 1, except for “the periphery of the decoupler [i.e., Yamamoto’s diaphragm 34] . . . spaced apart from the [upper and lower orifice] plates” (Final Office Action 2). The Examiner indicates that Hein discloses “an engine mount having a decoupler 38 spaced from the partitions to allow free movement” (Final Office Action 2). Based on these disclosures, the Examiner concludes that it would have been *prima facie* obvious to one of ordinary skill in the art to have “spaced apart the periphery of the decoupler [i.e., diaphragm 34] of Yamamoto . . . in view of the teaching of Hein . . . so as to allow for different degrees of damping for different oscillations as taught by Hein . . .” (Final Office Action 3).

Appellants argue that there is no suggestion or motivation to modify Yamamoto's diaphragm to include the freely floating ends of Hein's decoupler in the manner proposed by the Examiner (Br. 6). Appellants contend that the Examiner has merely relied on a conclusory statement as the reason for combining the teachings of the references (Br. 6). In this regard, Appellants allege that the Examiner has failed to provide any evidence of motivation to combine from either the references or from the Examiner's knowledge, either by Official Notice or an Examiner's Affidavit (Br. 6).

Appellants argue that both Yamamoto and Hein disclose that the peripheries of their diaphragms are "sealed against the mount" (Br. 6). Specifically, Appellants refer to Yamamoto's disclosure at column 7, lines 7-49 and Hein's disclosure at Figure 2 (i.e., diaphragm 32 is sealed against partition assembly 28 by tabs 36) as teaching a sealed arrangement for the diaphragm (Br. 6). Based on these arguments, the Appellants conclude that the references fail to teach the claimed subject matter and the § 103 rejection must fail (Br. 8).

Appellants further argue that the Examiner has engaged in impermissible hindsight because there is a "void of evidence around the Examiner's allegation of obviousness" (Br. 9). Appellants contend that since the Examiner is "unable to support the allegation of obviousness with a citation to *either* Yamamoto or Hein, the Examiner's use of impermissible hindsight is apparent" (Br. 9).

Appellants argue that the suggested modification of Yamamoto with Hein would destroy the "intent, purpose or function of the invention disclosed in the reference" (Br. 9). Appellants argue that Hein differentiates

his diaphragm 32 from his decoupler 38 such that the Examiner's likening of Hein's decoupler 38 with Appellants' diaphragm 60 is improper "on its face" (Br. 10). Appellants contend that the "structures compared by the Examiner (i.e., Hein's decoupler 38 with Appellants' diaphragm 60) are not similar and perform different functions" (Br. 10).

Appellants further contend that the Examiner appears to be arguing that the spacing apart of the central node of the diaphragm is equivalent to spacing apart of the periphery (Br. 10). However, Appellants state that their invention cannot work as intended with the central node spaced apart from the orifice plates (Br. 10). Appellants conclude that "[a]ny modification that would render the instant claims unworkable cannot be an obvious modification" (Br. 10).

Appellants further argue that the references teach away from the proposed combination of Yamamoto with Hein (Br. 11). Appellants contend that any combination of Yamamoto and Hein would require "substantial reconstruction and redesign of the elements shown as well as a change in the basic principle under which the construction of the references is designed to operate, and is not a proper ground for a [§] 103(a) rejection" (Br. 11).

Regarding whether Yamamoto teaches away from the claimed invention, Appellants explain that Yamamoto "features a diaphragm portion 34 that assumes a generally inverted U-form and 'has a curved configuration that nearly corresponds to the radius or curvature part 11a bulging out toward the inner peripheral surface of the annular wall section 14 of the orifice member . . .'" (Br. 11). Appellants contend that "[s]haping the periphery of the diaphragm portion to *closely match* the curves of an orifice plate directly contrasts with shaping the diaphragm to be *spaced apart* from

the orifice plate” (Br. 11). Citing *In re Ratti*, 270 F.2d 801, 812, 123 USPQ 349, 352 (CCPA 1959), Appellants contend that Yamamoto’s vibration-proof device would require significant modification and redesign that directly contrasts with the mandates of § 103(a) (Br. 11).

Appellants further point out that Yamamoto shapes his diaphragm 34 to complement the curves of the orifice member (11) to preclude the generation of abnormal sound accompanied by sliding displacement of the diaphragm (Br. 11). Based on these arguments, Appellants conclude that spacing of the periphery of the diaphragm away from the orifice members is in direct contrast to the teachings of Yamamoto and would destroy the fundamental intent, purpose, function, and principle of operation of Yamamoto’s device (Br. 11).

The Examiner responds to Appellants’ hindsight argument by citing *In re McLaughlin*, 443 F.2d 1392, 1396, 170 USPQ 209, 212 (CCPA 1971) (Answer 3-4). The Examiner contends that he used only “knowledge which was within the level of ordinary skill at the time the claimed invention was made” and not “knowledge gleaned . . . from the . . . [Appellants’] disclosure” (Answer 3).

Regarding Appellants’ arguments directed to lack of motivation to combine Yamamoto and Hein, the Examiner responds that it is well “known in the art to provide for damping of different frequency ranges by allowing flow around a decoupler or diaphragm as is taught by Hein . . .” (Answer 4). The Examiner also notes that the periphery is spaced apart in Yamamoto as broadly claimed (Answer 4). The Examiner explains that Appellants claim a “periphery” not a “peripheral edge” (Answer 3). The Examiner defines periphery as “a portion near the edge” (Answer 3).

Appellants counter the Examiner's statements by reiterating the arguments made in their Brief (Reply Br. 3-7). Appellants add that the "Examiner's definition [of periphery], while not necessarily incorrect, is inappropriately restrictive" (Reply Br. 2). Appellants cite to three websites that define periphery as "the outermost part or region within a precise boundary," "the outward bounds of something as distinguished from its internal regions or center" or "the area around the edge of a place," respectively (Reply Br. 2).<sup>1</sup> Based on these definitions, Appellants contend they are entitled to the broadest reasonable interpretation a person of ordinary skill in the pertinent art would give to the chosen claim language (Reply Br. 3).

Applying their definitions of "periphery" to the prior art used to reject their claims, Appellants contend that Yamamoto and Hein indicate that the "outermost part or region [of the diaphragm]" or "the outward bounds [of the diaphragm] as distinguished from its internal regions or center" or "the area around the edge of [the diaphragm]" is not free to move between the upper and lower orifice plates as required by Appellants' claims (Reply Br. 3).

We agree with Appellants' ultimate position that the § 103 rejection over Yamamoto in view of Hein cannot be sustained.

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<sup>1</sup>Appellants' dictionary citations were provided from the following websites: (1) <http://dictionary.reference.com/search?q=periphery>; (2) <http://www.m-w.com/cgi-bin/dictionary?book=Dictionary&va=periphery>; (3) <http://encarta.msn.com/encnet/features/dictionary/DiectionaryResults.aspx?refid=1861725079>.

Yamamoto discloses a liquid-sealed vibration-proof device for supporting and bearing automobile engines (Yamamoto, col. 1, ll. 8-10). Yamamoto's device includes two chambers (5a,5b) separated by a partition (10) (Yamamoto, Figure 1). The partition 10 includes an orifice member (11), a partition plate member (12) and a rubber membrane (13) positioned between the orifice member (11) and the partition plate member (12) (Yamamoto, Figures 1 and 2). The rubber member is "pinched" between the orifice member and the partition plate member such that the "open end" (35) of the rubber membrane diaphragm portion (34) is brought into pressure contact with an inner peripheral surface of the annular wall section of the orifice member (Yamamoto, col. 2, ll. 26-34, col. 6, ll. 27-37, Figures 1, 3, and 4).

Yamamoto further discloses that the abutting relationship between the "open end" (35) of diaphragm (34) and the inner annular wall portion (14) of the orifice member (11) controls the sliding movement of the diaphragm thereby controlling the "generation of abnormal sound" in the vibration-proof device (Yamamoto, col. 7, ll. 4-20). Yamamoto also discloses that this arrangement of the "open end" (35) with the inner annular wall (14) controls movement of the diaphragm so as to dampen vibrations (Yamamoto, col. 8, ll. 44-60).

Hein discloses a hydraulically damped powertrain mount having a partition assembly (28) (Figure 1). Hein further discloses that decoupler 38 is positioned within the partition assembly (28) and the decoupler controls fluid flow through the partition assembly to control damping of vibrations (Hein, col. 3, line 43 to col. 4, line 6, Figure 2). Hein's Figure 2 appears to



show that decoupler 38 is rectangular in cross-section and the ends of the decoupler float freely within the partition assembly (28).

Because Hein's decoupler and Yamamoto's diaphragm are functionally and structurally unrelated to one another, the Examiner's proposed combination appears to be based on hindsight. Even disregarding this infirmity, we consider the Examiner's proposal, to incorporate the free floating ends of Hein's decoupler into Yamamoto's diaphragm portion of the rubber membrane in the partition assembly, to be contrary to the express teachings of Yamamoto. Yamamoto discloses that the "open end" (35) of the diaphragm 34 is to be restrained to control the sliding movement thereof (Yamamoto, col. 7, ll. 4-20). Moreover, Yamamoto further explains that having the diaphragm's "open end" restrained provides the added advantage of reducing the noise caused by movement of the "open end" (Yamamoto, col. 7, ll. 4-21).

The Examiner's proposed modification would render Yamamoto's vibration-proof device unsatisfactory for its intended purpose of precluding the generation of abnormal sound in the device by restraining the diaphragm free end, such that there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984).

We also find that the Examiner's proposed modification would change the principle of operation of Yamamoto's vibration-proof device such that the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 981, 123 USPQ 349, 352 (CCPA 1959). Yamamoto's device functions by restraining the sliding movement of the "open end" (35) of the diaphragm (34) (Figures 3 and 4).

Modifying Yamamoto's diaphragm to have a freely floating end, as Hein discloses, would remove Yamamoto's restrained sliding movement of the diaphragm "open end" (35), the very feature that permits Yamamoto to achieve his goal of reducing abnormal sound in the vibration-proof device.

Based on our foregoing discussion, we cannot sustain the § 103(a) rejection of claims 1-7 and 14-18 over Yamamoto in view of Hein.

#### CLAIM 8

Claim 8 recites the same features as claim 1 with the additional feature of the periphery of the diaphragm having a raised rim.

The Examiner rejects claims 8-13 under § 103(a) over Yamamoto in view of Hein. The Examiner does not address the raised-rim feature in his explanation of the rejection (Answer 3; Final Office Action 2-3).

Appellants make the same arguments regarding the Examiner's § 103(a) rejection of claim 8, as they made regarding the § 103(a) rejection of claim 1. However, Appellants further argue that neither Yamamoto nor Hein disclose a "raised rim" as required by claim 8.

The Examiner makes the same response to Appellants' previously made arguments. The Examiner does not respond to Appellants' argument regarding the raised rim.

Regarding Appellants' arguments made with respect to claim 8 that were previously made with respect to claim 1, our previously noted disposition applies to those arguments. As explained above, the modification of Yamamoto's vibration-proof device to incorporate the freely floating ends of Hein's decoupler appears to be based on hindsight. Additionally, this modification is contrary to Yamamoto's disclosure and

doing so would destroy the function and purpose of Yamamoto's device. *Ratti*, 270 F.2d at 981, 123 USPQ at 352. See our discussion in the CLAIM 1 section above for further explanation of the reasoning behind our determination.

We also add that neither Yamamoto nor Hein discloses a diaphragm having a periphery with a "raised rim" as recited in claim 8. Since all the features of claim 8 are not disclosed by the prior art, the § 103(a) rejection cannot stand. See *In re Vaeck*, 947 F.2d 488, 493, 20 USPQ2d 1438, 1442 (Fed. Cir. 1991); *In re Royka*, 490 F.2d 981, 985, 180 USPQ 580, 583 (CCPA 1974).

Accordingly, we cannot sustain the § 103(a) rejection over Yamamoto in view of Hein of claims 8-13.

#### REMAND

The Examiner should consider rejecting at least claim 1 under § 102(e) over Yamamoto US 6,505,822 B1. Yamamoto appears to teach a vibration-proof device having the following features: an orifice member (11) (i.e., upper orifice plate); a partition plate (12) (i.e., lower orifice plate) and a generally planar rubber membrane (13) having a central node (33a) and a diaphragm (34). The rubber membrane is positioned between the orifice member (11) and partition plate (12) such that the central node (33a) of the rubber membrane (13) is in constant contact with both the orifice member (11) and partition plate (12) (Figure 1). Moreover, as discussed more fully below, the "periphery" of the diaphragm 34 is spaced apart from the partition plate (12) (i.e., lower orifice plate) and is free to move between the

orifice member (11) (i.e., upper orifice plate) and the partition plate (12) (i.e., lower orifice plate).

Though acknowledging that the Examiner's definition of "periphery" is "not necessarily incorrect," Appellants nevertheless argue in their Reply Brief that the definition provided by the Examiner, "a portion near the edge" (Answer 3), is "inappropriately restrictive" (Reply Br. 2). Appellants then proceed to provide the three additional definitions of "periphery" discussed above in the CLAIM 1 section of this opinion<sup>2</sup> (Reply Br. 2).

We note that the definitions argued by Appellants appear to support the Examiner's definition of "periphery." For example, the Webster's "periphery" definition provided by Appellants, "the outward bounds of something as distinguished from its internal regions or center," is a relative definition because what is considered "outward" is measured from arbitrary "internal regions." Thus, the portion of the Yamamoto's diaphragm 34 that is slightly inward from the "open end" 35 would still be considered a portion of the "outward bounds" of the rubber membrane 13 relative to the internal regions of the rubber membrane (i.e., the central portion generally indicated as elastic membrane 33a).

The Examiner's definition of "periphery" (i.e., "a portion near the edge") and Appellants' provided definition discussed in the preceding paragraph, though broad, are reasonable and consistent with Appellants' Specification, thus satisfying the "broadest reasonable interpretation"

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<sup>2</sup> Appellants define "periphery" as follows: (1) "the outermost part or region within a precise boundary" (Dictionary.com), (2) "the outward bounds of something as distinguished from its internal regions or center" (Webster's dictionary) and (3) "the area around the edge of a place" (Encarta.msn.com).

standard applied during examination. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1317, 75 USPQ2d 1321, 1329 (Fed. Cir. 2005).

From the foregoing and as best shown in Yamamoto's Figures 3 and 4, the "U-form" of Yamamoto's diaphragm (34) includes a "portion [of the diaphragm] near the edge" that is not in contact with the partition plate (12) (i.e., lower orifice plate). In fact, as shown in Figure 4, there are times during the flexing of the diaphragm when "a portion [of Yamamoto's diaphragm (34)] near the edge" is neither in contact with the orifice member (11) (i.e., upper orifice plate) nor the partition plate (12) (i.e., lower orifice plate).

Thus, Yamamoto appears to anticipate at least Appellants' claim 1.

Therefore, in response to this remand, the Examiner must determine, and make of record the results of this determination, the propriety of rejecting at least claim 1 under 35 U.S.C. § 102(e) as being unpatentable over Yamamoto.

This remand to the Examiner pursuant to 37 C.F.R. § 41.50(a)(1) (2006) is *not* made for further consideration of a rejection. Accordingly, 37 C.F.R. § 41.50(a)(2) (2006) does not apply.

## CONCLUSION

In summary, we have reversed the § 103(a) rejection of claims 1-18 Yamamoto in view of Hein.

The Examiner's decision is reversed and the application is remanded to the Examiner for action consistent with our comments above.

REVERSED & REMANDED

Appeal 2006-2022  
Application 10/092,320

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Delphi Technologies, Inc.  
Legal Staff  
1450 W. Long Lake  
P.O. Box 5052, Mail Code: 482-204-450  
Troy, MI 48098